

## SECONDARY STUDENTS:

1. Index.

2. Seniors: exam tips re comprehension.

3-5: Reading book of lists.

6: Time planning sheet.

7-10. *An integrated approach to teaching written-language skills*

from the DET *Handbook for Teachers of students with Learning Difficulties*: written expression booklet: research skills/ essay writing/ story writing/ writing process.

### **The research -essay process:**

i). Lesson 1: students are given a general overview of how to make a tree diagram & how to list things in point form.

ii). Lesson 2: the students are to classify or “file” information under the given subheadings.

iii). Lesson 3: students to create the actual subtopic headings for the given information:

iv). Lesson 4: the students create a tree diagram and list the information in point form.

v). Lesson 5: Students learn how to sequence the 2nd story.

vi). Lesson 6: Students to write an essay using paragraph introductions and concluding sentences.

vii). Lesson 7: Students to create a “mini essay”.

viii). Lesson 8: students to write a major research essay with the aid of the tree diagram.

### **The story writing process.**

11-14: Tips to modifying texts. (Texts books/ difficult text).

15-28: **Secondary students with word level reading disability and adolescent literacy issues.** (Birsch. 2011. Chapters 16 and 17).

29-40. Secondary students reading programming and strategies handbook (NSW DET).

41-42: HUGH GRIGG: SuperMemo has an article titled ‘Effective learning: Twenty rules of formulating knowledge’.

## **SENIORS: exam tips re comprehension**

1. Read the front page **VERY CAREFULLY**. It contains **vital information**.
  - (a). Time allowed.
  - (b). Basic instructions
2. Make sure read the italicised *lead in* to the passage.
3. Read through the first passage quickly to get an idea of what is contained in the passage.
4. "Scan" the questions, noting the marks allocated for each one.
5. **STOP!** Now ask yourself the following questions.
  - (a). What is the passage about: think *linearly*.
  - (b). What do the questions ask?
6. **NOW** read the question **very carefully**. What is wanted? Are there parts to the question? If so, how many, and what marks are allocated to each?
7. **READ VERY CAREFULLY** the part in the passage where the information is contained. (Normally, but not always, the early questions will be concerned with the first part of the text.)
8. **ORGANISE** your thoughts----**REMEMBER** full sentence answers, with proper "lead in", unless told otherwise.
9. **KEEP AN EYE ON THE TIME. DEEP BREATH if you start to panic.**

### **Seniors: note taking:**

- \*outlining
- \*Mapping.
- \*Diagramming.
- \*Summarising.

From *The New Reading Teachers Book of Lists*. Fry.

### **Study Skills List:**

These study skills should be taught through Primary school and into High school. Be sure to integrate them into lessons regularly and encourage students to use them on an ongoing basis.

#### **1. Organising for study:**

- \*Time planning.
- \*Place.
- \*Tools.
- \*Reference.

#### **2. Reading**

- \*Using signal words.
- \*Using text aids:
  - \*table of contents.
  - \*introductions.
  - \*headings
  - \* summaries
  - \*glossaries
  - \*appendices
  - \* indexes
- \*Surveying the text.
- \*Reading to answer questions (See comprehension questions)
- \*Determining organisational patterns.
  - \*chronological order.
  - \*cause and effect.
  - \*comparison and contrast
  - \*functional
  - \*simple/ complex
- \*Pencil activities.
  - \*underlining
  - \*note taking

- \*outlining

- \*summarising

- \*graphing (see taxonomy of graphs)

- \*Reading for different purposes.

- \*skimming

- \*scanning

- \*reading to learn

- \*reading for pleasure

- \*Increasing reading speed.

### **3. Learning new vocabulary:**

- \*Using context.

- \*Roots, prefixes, suffixes.

- \*Using the dictionary.

### **4. Using Visual Aids:**

- \*Maps (reading & symbols).

- \*Pictures

- \*Graphs

- \*Tables

- \*Signs and symbols.

### **5. Listening to Lectures:**

- \*Taking notes.

- \*Listening skills.

### **6. Preparing for tests:**

- \*Making study sheets

- \*Making up test questions

- \*Recitation of self-testing.

- \*Mnemonic devices.

## **7. Taking tests:**

- \*Essay exams.
- \*Objective exams:
  - \*multiple choice
  - \*Matching
  - \*True-False
- \*Quantitative exams.

## **8. Writing Research Papers:**

- \*Using the library.
- \*Using reference books.
- \*Narrowing a topic.
- \*Making a bibliography.
- \*Using note cards.
- \*Making an outline.
- \*Writing the rough draft.
- \*Using footnotes.

**TIME PLANNING SHEET:**

A time planning sheet is a basic study skills tool. This is a practical one, just in case you don't have one readily available. Use it to encourage reading and studying.

**STUDY, READING, WORK , RECREATION SCHEDULE:**

|                                     | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-------------------------------------|--------|---------|-----------|----------|--------|----------|
| Study period during the school day. |        |         |           |          |        | a. m.    |
| After School Afternoon.             |        |         |           |          |        | p. m.    |
| Early Evening.                      |        |         |           |          |        |          |
| Late Evening.                       |        |         |           |          |        |          |

**Directions:** Fill in every square with one or two of the following activities.

1. STUDY: Homework assignments. Activity related to courses being studied.
2. READING: reading primarily books for your pleasure, or, at most, supplemental or extra-interest material for the course you are taking.
3. WORK: work that you do outside of school for pay, or at home.
4. RECREATION: talking to friends, watching T.V., sports, goofing around.

**An integrated approach to teaching written-language skills:** (*Hand book for Teachers of Students with Learning Difficulties*: DET publication).

The following research-essay and story-writing processes can help reluctant writers. The steps were developed using task analysis and are based on the use of classifying and sequencing skills. Follow the principles of mastery learning, where progression to the next step only occurs when mastery has been achieved. **Over learn!!**

At each stage, predict which students may have trouble and in what areas, so assistance can be quickly provided. Not all steps will be necessary for all students.

**The research-essay process:**

\*providing an organisational format, gives students who find it hard to organise their thoughts a framework to attach their thoughts to.

\*students are firstly taught to put their ideas into point form.

\*then to write them as sentences. In their own words....not a regurgitation.

\*Initially, the emphasis should be on the actual writing process and not the information/content of the essay. Once the process has been mastered, there will be the chance to concentrate on the information. There are 8 lessons in this structure:

**Lesson 1:** students are given a **general overview** of how to make a tree diagram & how to list things in point form.

a). Have the student read a short selection aloud, slowly & clearly.

b). Ask the student to recall what overall topic is being discussed. This is the chart heading.

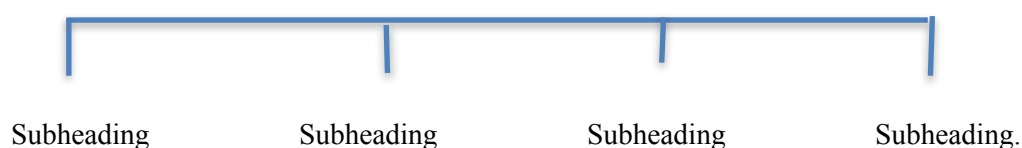
c). Ask the class what general areas are being talked about. These will be the subheadings. Encourage sequential thinking by asking what does paragraph 1 talk about.... Paragraph 2.... Paragraph 3 etc Is paragraph 2 talking about the same things as paragraph 1. If not, what is it talking about?

d). Have a student **read the 1st paragraph** again & have the class say what the paragraph is about. Have them record the information given in point form and indicate the subtopic under which the information can be listed.

**Lesson 2:** the students are to **classify** or “file” information under the given subheadings.

a). Students are to cut out the headings and subheadings and paste on a large piece of newsprint/ butchers paper etc. They can leave space for 3 more subheadings if they need them.

Heading.



b). Students can cut out each “point” and glue under the most appropriate subheading. Some point may go in more than one subheading. Students to choose.

c). Stress neatness and saying and how this helps to stay organised.

**Lesson 3:** students to create the **actual subtopic headings** for the given information:

- a). Students to create their own classification key (small diagram). It is most likely that the elements of the key are very similar to the subheadings.
- b). Students to classify each point by using symbols or numbers beside each to show the subheading under which it should be placed.
- c). Have students put a title on the sheet.
- d). Remove their work and hand out copies of the story. Story can be read aloud or silently, depending on the students. They are instructed to notice how easy it is for them to absorb the information after already classifying and deciding what the story is about. Collect their copies and ask questions based on the story.

**Lesson 4:** the students create a **tree diagram** and list the information in point form. They become aware that information from **more than one source** can be put under the subheadings.

- a). Students to classify all the useful & interesting information they can find from a story under their own headings.
  - b). Have students take a 2nd story on the same topic & classify the information given.
- NB: 2 stories can be used or any information from newspapers, filmstrip, movie, interviews, etc

**Lesson 5:** Students learn how to **sequence the 2nd story**.

- a). When the information from all the sources has been “filed” under the subheadings, have students re-examine the subheadings and sequence them.
- b). ... then number the points under the subheadings according to the order in which they would appear. Some points could be combined.

**Lesson 6:** Students to write an essay using **paragraph introductions and concluding sentences**.

- a). Students to help the teacher create a point form list/ outline for a selection on the board.
- b). Show that , in order to communicate clearly, a writer must:
  - \*tell what they are going to talk about (the topic sentence).
  - \*talk about it (ideas & facts).
  - \*tell, in a general statement, what they have talked about (concluding statement).(the “sandwich technique”).
- c). Using the sandwich technique, start the essay on the board with the students’ help. Encourage them to provide as many ideas for an opening sentence as possible.
- d). Sequence all subheadings and number each point.
- e). Show that each new subtopic forms a new paragraph and continue sandwiching the paragraphs until the technique is fully understood.
- f). Invite as many ideas as possible for a good closing sentence for the whole essay.

**Lesson 7:** Students to create a “**mini essay**”.

- a). Students to choose their own topic, based on the material teacher has provided and according to their interests.
- b). Students to create a tree diagram and a point-form list for the material
- c). Students to hand the source material back.
- d). Students to sequence the subheadings and the points under each subheading.

e).

Ask students to write a mini essay using the “sandwich technique”.

**Lesson 8:** students to write a major research essay with the aid of the tree diagram. In successfully completing a research essay, students learn how to:

- \*extract information they consider important from many sources of information.
- \*list details in point form & in as brief a way as possible.
- \*turn notes into paragraphs that flow into one another in a logical sequence.



**The Story Writing Process:** can be used from Primary to High school. There are also elements that appeal to young writers as well.

**Lesson 1:** the students review point form.

- a). Read a story to the students.
- b). Have students identify the most exciting part of the story.
- c). Write that part under the title of *Problem* on the board.
- d). Ask the students to identify what happened before this part. Write the points down under *Introduction* on the board.
- e). Continue as above, but ask the students to respond in point form. Get as many responses as possible. Record appropriate responses on the board.
- f). Continue asking for points. Have one student recount an incident from the story and another student to summarise the point for the list. Record appropriate responses on the board.
- g). Ask the students how does the story end? Write *Resolution* on the board.

Introduction

Problem

Resolution

.....X.....

**Lesson 2:** students sequence pictures.

- a). Hand out 3 pictures (as a sequence but in the wrong order).
- b). Students put them into correct order.
- c). Discuss what was done.
- d). Students to write an appropriate sentence under each picture.
- e). Write one set of statements on the board using “spiced-up” descriptive sentences.

**Lesson 3:** same as lesson 2.

- a). Hand out 3 more sheets of 3 pictures each.
- b). Sequence the pictures. Write a sentence under each.
- c). Students to select their favourite sequence & paste on a large sheet of paper.
- d). Have students write their sentences using more descriptive language.

**Lesson 4:** students list the details of a story under the headings:

Introduction..... Problem.....Resolution.

- a). Show a picture to the class, asking students to identify the **central problem** in the picture.
- b). They state it in point form and write on the board for the class.
- c). Ask for a possible resolution: break it into steps and ask for point-form responses for the board.

**Lesson 5:** Students create an introduction that will lead up to the problem.

- a). Show 4 unrelated pictures.
- b). Read an introduction for each of the pictures and have students number them.
- c). Have the students identify the problem & create the resolution from one of the pictures.

**Lesson 6:** students sequence and identify the **rising action and sequence**.

- a). Read a short book to the class.
- b). Hand out the form with events numbered:  
Event #1:  
Event #2:  
Event #3: etc
- c). Discuss the **problem**. Discuss what happened before & after the problem. What happened first etc. Explain that everything that happens before the problem, and the problem itself, is the **rising action**.

d). Student cut Problem and events and glue onto events diagram in the correct order. Explain that everything **after** the Problem is the Resolution.

**Lesson 7:** students to sequence the rising action and create a resolution.

- a). Students read a story and stop at the problem.
- b). Hand out a copy of the events sheet leading up to the problem.
- c). Have students sequence and glue as for Lesson 6.
- d). Ask students to write a resolution in the remaining event “stations”.

**Lesson 8:** as a group, the students define the problem implied in a picture provided by the teacher.

- a). Show one picture. As a group, define it.
- b). Students record on events sheet. Teacher puts this on the board.
- c). Discuss as a group several possible starting points & record these in point form on the board.
- d). Students choose & record an introduction for their story & sequence the story on a chart up to the problem.
- e). Students sequence the resolution.
- f). Students work in pairs to add any additional details to their individual plot lines.

**Lesson 9:** If needed, student repeat all of the above for extra practice.

**Lesson 10:** students expand point form statements into **complex descriptive sentences**.

- a). Post some examples of point form sentences in sequence.
- b). Have students help you to add more descriptive additions. Do this on an overhead projector acetate with crossings out to show how ideas can be developed.
- c). Re type the rough copy. Give students a copy of the draft and completed copy so they can compare it.

**Lesson 11:** students attempt a rough draft of their last plot line.

**Lesson 12:** volunteers type good copies of the stories or put it on a word processor.

**Lesson 13:** students break the story up into sections for illustrating.

**Lesson 14:** students may choose to have their stories “published” and placed in the library.

## **Modifying texts.**

### **Difficulties with textbooks:**

- \*students' limited background knowledge to link with new information.
- \*unfamiliar text organisation structures.
- \*texts written to inform rather than entertain can lower interest.
- \*writing may lack connectives and transition verbs.
- \*students' inability to recognise words in print.

**Organisation of texts:** teachers can help students recognise the organisation within texts before reading. This can be done by **previewing** and **skimming**:

- 1). Read the title. Convert it into a question.
- 2). Read the introduction, summary and questions. What are the main points?
- 3). Read headings and subheadings. Convert into questions.
- 4). Read highlighted words. Why are they there?
- 5). Look at maps, diagrams and pictures. Why are they there?

### **Plans and strategies would be taught by modelling, then using guided practice and finally independent practice.**

However, some texts are not written well, using unhelpful language and poor organisation. To see if a text will be readily understood by your students, ask the following:

#### **Questions to ask about a text:**

1. Are there enough visual aids (pictures, illustrations, graphs, headings) etc.
2. Is the content appropriate for the intended students? Is information clear and accurate.
3. Is the text coherent? Does it move sequentially and logically?
4. Is the style of writing appropriate and interesting?
5. Is the language clear? Is the terminology well defined by its content? Is the sentence structure and the length appropriate?

If it is impossible to use inconsiderate texts, then the following strategies will help students deal with them.

#### **Using inconsiderate texts:**

1. Students deal with part of the text only. Use the planning pyramid listing essential to be known/ should be known/could be known.
2. Use pre-reading strategies & set clear purpose for reading.
3. Use difficult but essential material in listening comprehension. Monitor understanding throughout by questioning.
4. Use visual aids extensively: illustrations, film, pictures, graphs and other visual aids.
5. Modify texts. Use simpler language, shorter sentences, use concept maps to form a visual representation of ideas.

An old article but still relevant today: *Using textbooks with students who cannot read them*. Jean Ciborowski. *Remedial and Special Education*. Vol. 16, number 2, March 1995. Pages 90-101.

VOCABULARY changes in KLA syllabus topics:

Windows on the environment: an English KLA unit: *Cry Me a River*. Rodney Mc Crae. (Yr 5).

Some students in this class were working towards Year 5 outcomes and some towards Year 2 outcomes. The teacher made a workbook for the text for the level 2 outcomes with modified vocabulary.

|  |                                   |
|--|-----------------------------------|
| shimmering..... shining                      | chiselled features....shaped face |
| brittle tussocks.... broken clumps of grass. |                                   |
| amber....yellow                              | welled....rose                    |
| cascaded....fell                             | soothed....calmed                 |
| moist....damp                                | thicket....bushes                 |
| abounded...lived                             | soothing...calming                |
| quenching...water                            | flourished....grew                |
| fruits....results                            | discharged....flowed              |
| nourished...grow                             | smelly...putrid                   |
| indifference....people who don't care.       |                                   |

## BOX 9.1.1 Making activities relevant to students through adapting curriculum content and presentation

### Worksheet A (original)

Do the following activities. Use correct scientific method in your write-up.

- 1 Which materials can be charged?
  - a Tear a piece of paper about 10 cm x 10 cm into little pieces.
  - b Use the piece of cloth given to you by your teacher to rub a glass stirring rod and see if it will pick up your little pieces of paper. Try holding the rubbed rod next to your hair and see what happens.
  - c Try using various other objects such as a pencil, a biro, comb and a metal rod.
  - d In your book write a list of objects that became charged and a list of objects that did not.
- 2 What materials are attracted by an electric charge?
  - a Make a pile of small pieces of several kinds of materials; for example, paper, aluminium foil, birdseed, sawdust, plastic lunch wrap.
  - b Rub a perspex rod on a piece of silk.
  - c Hold the charged end of the rod (the end you rubbed on the silk) near each pile in turn and write down what you see happening.
  - d Repeat using an ebonite rod rubbed on a piece of wool.
  - e What else can a charged rod attract—experiment with things around you (hint: try your hair, a fine trickle of water, etc.).
- 3 Two kinds of electric charge: Work with a partner in this activity.
  - a Stick a small amount of plasticine on either side of a large watch glass.
  - b Charge a perspex rod by rubbing it on a piece of silk and balance it on your watch glass as in the Figure X below:

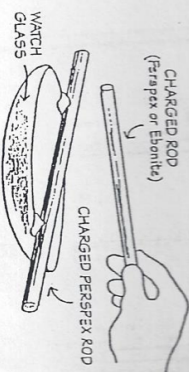


Figure X How do charges behave?

- c Charge a second perspex rod in the same way and bring its charged end near the charged end of the first rod—record what you see.
- e Replace the rod on the watch glass with a charged ebonite rod.
- f Repeat (c) and (d).
- g Do you think perspex and ebonite receive the same charge when they are rubbed? If perspex becomes negatively charged, what happens to ebonite when it is rubbed?

### Worksheet B (adapted)

Experiment: Electric force/static electricity

Aim: To find out what material can be charged.

#### You need:

- 1 Tiny pieces of paper
- 2 Silk cloth
- 3 Glass rod

#### Method:

- 1 Put the pieces of paper on the desk.
- 2 Rub the glass rod with the silk cloth.
- 3 Bring the rod close to but not touching the pieces of paper. What happened?
- 4 Bring the glass rod close to but not touching your hair. What happened?
- 5 Now try rubbing the following objects: a pencil, a biro, a comb and a metal rod and bring each one close to the pieces of paper.
- 6 Complete the table below to show what happened:

| Object    | What happened |
|-----------|---------------|
| Pencil    |               |
| Biro      |               |
| Comb      |               |
| Metal rod |               |



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# ENERGY - TOPIC TEST

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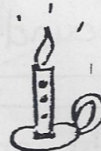
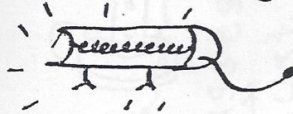


DRAW A LINE UNDER THE OBJECTS THAT HAVE

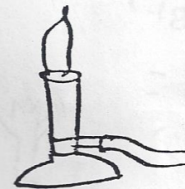
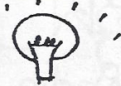
1) KINETIC ENERGY



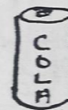
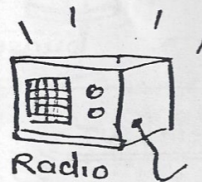
2) HEAT ENERGY



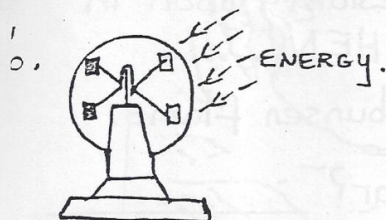
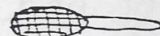
3) LIGHT ENERGY



4) SOUND ENERGY



5) ELECTRICAL ENERGY



a Radiometer

Which energy makes the wheel of the radiometer spin?

Sound   Heat   Radiant   Electrical

**Secondary students with word level reading disability and adolescent literacy issues.** From: *Multi sensory teaching of basic language skills*. 2011 (3<sup>rd</sup> ed.) Birsch, J. R. Paul H Brooks publishing company.

Chapter 16. Instructions for older students with a word-level reading disability....

Chapter 17: Summary of important points eg. increasing “higher “level sub skills from 4th grade and up.

### 1. Summary of important points from chapter 16.

Key word-level sub skills are: **phonemic Awareness, sound-symbol relationships, word attack (decoding), word identification, fluency, spelling.**

A large % of students beyond elementary grades lack decoding & fluency skills & cannot read grade-level texts. (P. 487-8). They have deficits in matching mapping alphabetic symbols to sounds and are unable to deal with any words they have not seen before (Bruck, 1990, 1992; Spreen, 1989). Their guessing strategy does not work and leads to corresponding spelling deficits.

Some people believe it is not appropriate to remediate these older students at the **word level** but it is the **only way they will learn to decode**. It is not too late: Deschler & Hock, 2006; Hock et al 2009; they need instruction that target their word level deficits. Curtis & Longo, 1999; Deschler et al, 2001; Lovett, Barron & Benson, 2003; O’Connor & Wilson, 1995; Penney, 2002; benefit from word reading strategies even after 3<sup>rd</sup> grade. **They need P.A., word analysis, sight word recognition, vocabulary, fluency & comprehension.**

**Assessment** is very important for these older students, but not just annual, general assessments. Their problems need to be specified. They usually are **from not having accurate word reading or comprehension or from both.**

**General reading** (screening) scores can be got from State and district wide English Language Arts tests. More comprehensive assessment will determine sub skills and abilities. Screening for **key word-level sub skills like:**

**\*P.A., sound-symbol relationships; word attack (decoding), word identification, fluency, spelling.**

Some screening texts.

**\*TOSWRF-2: Test of Silent Word Reading Fluency-Second Edition:** see details below.

**\*Spelling subtest of Word Identification and Spelling Test:** (WIST: Felton & Wilson help determine baseline of sound knowledge). See details below. An **oral reading fluency assessment** that includes a prosody measure can be used too.

Other screening tools exist but take care with choice. You want to get one, for these older readers that will show the problem as being one of word-level decoding skills or of comprehension deficits. See chapter 12, 14, 17 for these. Use multi tiered model of intervention... do not just shove these kids into general class. If the problem is one of **word-level decoding skills** they need **specific word- level work** (Hock et al, 2009).

**\*If the problem is one of good decoding skills but poor comprehension, they need comprehension instruction and strategy instruction** (Deschler et al, 2001; Moore, Bean, Birdyshaw Rycik, 1999; Scruggs, Mastropieri, Berkely & Graetz 2010.)

Lyon et al, 2001: they need more intensive instruction than other students. See chap 17.

See page 492 below for Example of literacy Planning beyond Grade 3.

## **Accuracy and Automaticity of single-word reading: (p. 494).**

Adolescents with these basic problems will have lingering problems with reading & spelling, but when started at the basic level and taught in a MSL systematic way, they will make substantial progress. (Curtis & Longo, 1999; O'Connor & Wilson, 1995; Penney, 2002)

**Teaching sounds:** WIST (Felton & Wilson, 2005) can help teacher determine baseline of sound knowledge.

- \*no ə after consonants....
- \*confusion between /y/ and /w/. Older students don't need key words pictures... just the sound.
- \*Say /ā/ apple /ă/.
- \*Their sound chart has only these pictures: short vowel sounds/ qu, w, x, y. Also g & c.
- \*Digraphs are always grouped together. draw a line under them, write them in the same colour.

Student notebook: divide into several sections.

- \*1<sup>st</sup> section: labelled "sounds".
  - \*page for short vowels.
  - \*another for consonants
  - \*another for digraphs
  - \*other sections:
  - \*word/ syllable structures/ spelling rules/ vocabulary/ high frequency non-phonetic irregular words (Wilson, 1989).

Take care with sequence in which sounds are taught. Teach all to mastery. Model the sounds and have students repeat them **correctly** after you. **Practice in 2 directions:** 1<sup>st</sup> for **decoding** (students look at the letter & name the sound) and 2nd for **spelling** (students hear the sound and identify the letter).

1. **Teaching blending & segmenting:** Pp 496.. finger tapping strategies: tap each finger on the thumb then scoop thumb across the bottom (scooping). OR tap fingers on the table and then tap altogether with scooping. .... etc. etc

Wilson, 1989: short vowel words on flashcards... crucial stage... teach to mastery.

## **2. Introduce multisyllabic words:**

Bhattacharya & Ehri, 2004; Curtis & Longo, 1999; Wilson, 1989: teaching these older students about syllable patterns really helps them with word analysis skills (The type of syllable regulates the vowel sound).

Torgesen et al, 2007: not sure how much explicit multi syllable word instruction is needed for struggling readers beyond 3<sup>rd</sup> grade.

3. **Teach rules of orthography:** For students with a language difficulty, they find it very hard if not impossible to remember many complexly worded spelling rules. Use diagrams (eg 4 leaf clover rule for doubling). Use demonstrating and practice with concrete aids that can be manipulated (cards with root words/ suffixes/ prefixes etc).....(Banks et al; Janey & Snell, 2000, Wilson, 2000. Eg use prefix cards when teaching the magic e rule (498) etc.... **Over learn the application of the rule:** The rule itself is only written in their notebook for reference.

4. **Teaching Morphology:** direct teaching of morphology is another effective way to help older students understand and apply word structure rules. Explicit structure of the 20 prefixes that represent 97% of prefixed words in English and only 4 of these (*un, re, in, dis*) account for 58% of the prefixed words (White, Sowell & Yanagihara, 1989).



### **Application of skills & fluency instruction:**

\*10 year longitudinal study. The very act of reading helps children build their vocabulary, general knowledge and cognitive structures, **leading to fluency**. (Cunningham & Stanovitch. 1997).

\*Anderson, Wilson & Fielding (1988): landmark study of 5<sup>th</sup> graders showed enormous gap in their independent reading practices.

**Text readability.** For these older students who haven't developed the crucial alphabetic and word-reading skills, they must read **aloud** and have **direct teacher intervention**. Silent reading of passages is not enough.

**Prosody:** Kuhn & Stahl, 2003: prosodic reading involves chunking groups of words into meaningful phrases according to syntax. The National Assessment of Educational Progress (NEAP) **uses a rubric to rate prosody and guide instruction (p. 500)**.

### **Application of skills & fluency words:**

1. controlled decodable text.
2. non controlled decodable text
3. enriched text.

See p. 501 below.

### **Determining what books to use as readers.**

1. **Only the sound-patterns they have studied. = controlled. 95% accuracy.** Wilson: *Stories for older students*. Must provide substantial practice within contexts. Benefits of controlled text:

- \*to give students practice applying specific word-attack skills, to develop accuracy, and break the habit of guessing.

- \*to give students repeated practice for mastery of skills.

- \*to demonstrate word structure so that they "see" the system of the language.

- \*To provide them with text to develop fluency.

2. **The text can include patterns that have not been studied, but should still be 95% accuracy.**

- \*practice needs to be sufficient and with different kinds of texts written for different purposes **to achieve fluency**.

- \*Hiebert, 2002: there are various ways to determine text readability but the most robust is the 100 word test with 95% accuracy.

- \*See p. 503 for strategies.

- \*increasing independent reading: text choice/ modelled strategies (tapping)/ don't tell them unknown words.. use Pause, praise prompt strategy, use Aristotelian way of questioning (syllable types, suffixes etc.....), use the context and/or word structure.... Read on.....Finally as last resort, tell them the word.

- \*Kuhn et al, 2010: fluency combines accuracy, automaticity, and oral reading prosody which when combined facilitate readers' construction of meaning.

- \*p. 504: teacher models phrasing/ prosody.... Scoop the passage into phrases. Teacher reads a paragraph, then the student reads it... etc have student echo your reading and have them emphasise the **meaning** of the text.

- \*some passages can be simplified.

- \*rereading: use **nonfiction** passages for repeated reading and fluency work, as repeating the same in a story destroys the interest.

- \*In fiction, vocabulary is not repeated as often and less predictable (Hiebert, 2002).

- \*rereading: 50 to 200 word long passages, with many words repeated. Read up to 4 times because this seems to be the most beneficial (O'Shea, Sindelar, & O'Shea, 1985).

- \*rereading does improve fluency but too much attention to it may detract from

comprehension.

\*non-repetitive reading with a wide variety of decodable texts can be equally helpful to older students to increase reading speed. (Homan, Klesius, & Hite, 1993; Rashotte & Torgesen, 1985). Wide reading also exposes students to more vocabulary and additional background reading.

**\*use relatively short nonfiction passages for older students, but there are many sources of potential decodable fiction and nonfiction text passages for older students (see Appendix B).**

### **Development of vocabulary, background knowledge & comprehension.**

#### **Access to curriculum and other enriched text: reading to students:**

\*help focus on meaning by periodic discussion, modelling of thinking, and retelling the story using mental imagery as a guide for words. Help with difficult vocabulary, helping them find friendly definitions. Draw simple pictures of the concept to aid comprehension and recall.

\*controlled or non-controlled decodable text will not have an enriched vocabulary of content, so these older students must be read to...> more advanced vocabulary, substantially more background information, more complex syntax structure higher level thinking.

\*use both narrative and expository texts. Read to the students at a much higher level than they can read.

\*Beck, Kucan & McKeown, 2002: help focus on meaning by periodic discussion, modelling of thinking, and retelling the story using mental imagery as a guide for words. Help with difficult vocabulary, helping them find friendly definitions. Draw simple pictures of the concept to aid comprehension and recall.

#### **Assistive technology:**

\*Learning Ally: taped versions of school texts.

\*NICHD, 2000: adding speech synthesis to the print material presented on computers was an effective practice for reading instruction: text can be enlarged, read aloud by screen-reading software etc. **Text-to-speech** software etc. All are useful (Higgins, Boone & Lovitt, 1996; Raskind, Goldberg, Higgins & Herman, 2000).

\*Intel Reader: converts text to written form then reads it aloud. It is a mobile device so can be used in the classroom.

\*Kurzweill 3000: <http://www.kurzweilededu.com>. Reads printed text aloud, highlighting sentences, and words being read in colour. For writing assistance, the software provides templates for word prediction, spell check, and graphic organisers.

\*electronic spellcheckers with dictionaries: can be useful when students have a basic level of phonetic and orthographic spelling skill. <http://www.franklin.com>

\*Note taking: Livescribe Pulse Smart-pen device: [http:// livescribe.com/en-us/smartpen/pulse](http://livescribe.com/en-us/smartpen/pulse)  
Used with special paper...p. 508

#### **Provide successful classroom practice:** Students in 4<sup>th</sup> grade and beyond should have:

\*reading classes to develop independence by remediating deficits that show up from texting.

\*should also participate in content-area classrooms with supported inclusion and differentiated instruction.

The following 4 step process is for students who can't access information in their text book. (Wilson, 1987). It helps integrate reading and vocabulary instruction with content.

1. **Advance organisation:**

2. **Picture concepts:**

3. **Reading aloud and thinking aloud from the text:**
4. **Study card and retelling:**

1. **Advance organisation:** one of 2 instructional outcomes with adolescents that consistently enhanced outcomes (Swanson, Hoskyn & Lee, 1999). It can be a discussion with student prior to the task to focus attention; discuss prior knowledge that is relevant to this new knowledge/ concept; teacher might state reasons for studying the text.

2. **Picture concepts:** teacher quickly sketches the concepts with brief explanation and simplified vocabulary. Attach vocabulary labels to the picture, by writing the words into the picture.

3. **Reading aloud and thinking aloud from the text:** teacher reads aloud and periodically stops to discuss the text, and then discusses her thinking processes to help students create a visual image of the text in their minds. Teacher can refer back to the drawing and label with more specific vocabulary as appropriate.

4. **Study card and retelling:** students develop study cards to help them learn the vocabulary and integrate the information. Teacher gives list of study words, divided into syllables. Students write each word, divided into syllables, on one side of the card. On the other side, students draw a picture and/or write a user-friendly definition of the word. The cards are then spread out to display their relationships. Pictures or words can be face up. Students retell the information with the cards as a guide. This retelling can be done in pairs, in small groups, and/or with the whole class.

Content –area vocabulary is a serious challenge to these students with poor decoding and spelling. When assessing their knowledge, don't use word-retrieval questions, but ask questions about the **content**. If students have to come up with labels, provide a word bank and them to choose from the list. (Chapter 12).

NB: High School Subject area teachers have still not embraced content area instruction (p. 509).

#### **Example of literacy Planning beyond Grade 3: Birsch: p. 492**

| Language arts class  | Assessment   | Additional literacy instruction  |
|--|--|--|
| All student get strategy instruction in their regular English language arts class. | Review reading scores across states & districts. Conduct group screening of word level skills. | All students receive an additional literacy block in class that targets their needs. |
|  | General assessment & word level skills are both on target.                                     | <b>Instruction:</b> provide enrichment opportunities.                                |
|  | Poor reading on general assessment although word level skills are on target.                   | <b>Instruction:</b> provide vocabulary and comprehension strategy tuition.           |
|  | Poor reading on the general assessment and poor word level skills.                             |  |
|  | Moderate deficits (approx 15th -50th per centile).   | <b>Instruction:</b> provide explicit, systematic, phonic word study.                 |
|  | Significant deficits (further assessment of skills).   | <b>Instruction:</b> provide comprehensive, individual targeted intervention.         |

**Many teachers do not know how to teach this content.** These older students who are still struggling at the very basic level, need a totally different approach: **in depth word structure.** Unfortunately their teachers can't do this either. They also lack core information about phonology, orthography, and morphology (American Federation of Teaching, 1999; McCutchen et al, 2002).

Teachers who teach intensive interventions in alphabets must be given specific training (Curtis, 2004). They need targeted professional development and ongoing support.

**Instruction with word-level deficits: p. 493:**

See list.. what I've been doing: Boardman et al, 2008; Murray et al, 2010. (word level)

Kuhn, Schwanenflugel & Meisinger, 2010; Samuels & Farstrup, 2006; Wilson, 1989: fluency work beyond speed, including oral reading prosody with an emphasis on comprehension.

Sturgis & Patrick, 2010: advance to more advanced work when mastery is achieved.

Includes:

- \*phoneme/ grapheme instruction.
- \*Study of word structure for decoding.
- \*Word reading (accuracy/ automaticity focus)
- \*Connected text reading (prosody/ automaticity focus)
- \*Study of word structure for spelling.

## Use of Differentiated Texts and their interrelation for Students with Primary Decoding Deficits.

|   |  |   |   |
|---|--|---|---|
| <b>Focus. Accuracy &amp; automaticity of single word reading.</b> +   | <b>Focus. Fluency.</b> +   | <b>Focus. Fluency.</b> +  | <b>Focus: Vocabulary &amp; Comprehension:</b>   |
| <u>Goals of instruction:</u> to develop student basic skills for reading & spelling, + phonemic awareness, phonics, understanding of word structure (syllable patterns & affixes) and high frequency irregular words.   | <u>Goals of instruction.</u> To develop the students fluent and rate-appropriate independent reading of connected text for meaning and to develop a students' oral reading with ease & expression.   | <u>Goals of instruction.</u> To develop the students fluent and rate-appropriate independent reading of connected text for meaning and to develop a students' oral reading with ease & expression.  | <u>Goals of instruction:</u> to develop the students' vocabulary & understanding of both narrative & expository text & to increase a student's background knowledge & schema.   |
| Leading to:   | Leading to   | Leading to  | Leading to  |
| <b>Controlled text.</b>   | <b>Decodable text.</b>   | <b>Decodable text.</b>  | <b>Enriched text.</b>   |
| <b>Controlled text flashcards, Pseudo words, word lists Phrases, sentences.</b> Text is determined by the word structure that has been directly taught. It is 95-100% controlled to have graphemes, pseudo words, syllables, phonetically regular & irregular words with high "potential for accuracy" measured against the curriculum. | <b>Controlled Decodable text passages:</b> text is determined by the word structure that has been directly taught. It is 95-100% controlled to have graphemes, pseudo words, syllables, phonetically regular & irregular words with high "potential for accuracy" measured against the curriculum. | <b>Non Controlled Decodable text passages:</b> text is determined by the students decoding response to a given passage. Student must read It is 95-100% of the words independently. NB: consider the students' interests and background schema. | <b>Enriched text passage.</b> Narrative & expository text determined by the highest appropriate instructional listening comprehension level of student. Passage is to be read to the student with interactive dialogue so that they can develop comprehension skills at a higher level than their decoding ability. |
| <b>Example of controlled text</b>   | <b>Examples.</b>   | <b>Examples.</b>  | <b>Example of enriched text.</b>  |
| sh  | <i>Subs in the mud.</i>  | <i>Monkey Face.</i>   | Rhesus monkey shows language skill. Research at the Max Planck institute in Germany suggests  |
| shop. from  | The men on the job got subs from the sub shop.   | A study show that a monkey knows what another monkey's  | that human's capacity to read facial expressions  |
| from the shop   | They set the bag of subs on Ben's van.   | face is saying. A rhesus monkey has one look on its face  | may have evolved from monkeys. Asif Ghazanfar, who  |

|  |  |   |  |
|--|--|---|--|
| Jack <u>will get the subs</u> <u>from the shop.</u>  | Then Ben had to dash off.  | when it makes a happy sound. When it makes a sound  | studied the monkeys, found that rhesus monkeys can combine visual  |
| Use for application of skills & to build automaticity.....>  | He had to pick up a set of hub caps for his van.....   | because it is afraid, its face looks different  | and auditory information to perceive vocal signals.  |
| <b>Focus on:</b>   | <b>Focus on:</b>   | <b>Focus on:</b>  | <b>Focus on:</b>   |
| Phoneme-grapheme and grapheme-phonemes correspondence . Blending & segmenting with letter manipulation. Six syllable types in English. Orthographic rules & affixes. High frequency irregular words. Phrasing. | Application & mastery of specific decoding skills. Breaking an established guessing habit. Helping students see the structure of words in English. Reading for meaning. Prosody.   | Application & generalisation of decoding skills in a non-controlled environment. Use of context clues in conjunction with decoding strategies, as appropriate. Reading for meaning. Prosody.                                      | Vocabulary. Comprehension of narrative text. Comprehension of expository text. Mental imagery & retelling.   |
| <b>Instructions.</b>   | <b>Instructions.</b>   | <b>Instructions.</b>  | <b>Instructions.</b>   |
| Cumulative building of skills. Manipulation of word parts, (letter cards, syllables, affixes). Concurrent teaching of decoding spelling. Repetition and practice. Timed skills.                                | Teacher-assisted silent and oral reading with retelling. Teacher modelling of phrasing and expression. Repeated reading. Echo, choral & shared reading. Tape-assisted reading.   | Teacher-assisted silent and oral reading with retelling. Teacher modelling of phrasing and expression. Repeated reading. Echo, choral & shared reading. Tape-assisted reading.  | Teacher modelling of fluent reading (passage read by teacher.... Students do not track). Teacher modelling for thinking. Pictorial representation of content. Retelling. Graphic organisers. |
| <b>Increase text difficulty.</b>   | <b>Increase text difficulty.</b>   | <b>Increase text difficulty.</b>  | <b>Increase text difficulty.</b>   |
| Difficulty increases in relation to taught patterns of word structure: <i>mash</i> > <i>script</i> > <i>contract</i> > <i>compensate</i> > <i>compensation</i> > <i>illustrious</i> .                          | Difficulty increases in relation to size of font, passage length, text decoding level & complexity of content, themes & ideas: Difficulty increases in relation to taught patterns of word structure: <i>mash</i> > <i>script</i> > <i>contract</i> > <i>compensate</i> > <i>compensation</i> > <i>illustrious</i> . | Difficulty increases in relation to size of font, passage length, text decoding level & complexity of content, themes & ideas: Difficulty increases in relation to a student's overall ability to apply decoding & context clues. | Difficulty increases in relation to complexity of content, themes & ideas.   |
| <b>Leads to:</b>   | <b>Leads to:</b>   | <b>Leads to:</b>  | <b>Leads to:</b>   |

**Goal: the convergence of the skills that enable the student to independently read high-level text with ease, expression and comprehension.**

**Chapter 17: ADOLESCENT LITERACY:** addressing the needs of students in grades 4-12:

Good early literacy work does not inoculate older students from reading failure at the higher grades. Since the 1990's much research has been done on Primary levels, but not much on High (adolescent), where reading scores have been relatively flat since the 1970's (in the U.S.)

Many reports into this (p.522) and agreement is that "higher" level skills start in 4<sup>th</sup> grade. However, learning reading strategies should continue after this. For those with word level reading deficits and for others: **increased fluency work**, (123 WCPM in grade 4 to 151 WCPM in grade 8); **harder phonics like /ch/ in chorus /y/ in gym, multi-syllabic words, roots & affixes**. They need content-area specific instruction and intervention instruction in decoding, fluency, vocabulary, comprehension & content writing.

\*Poor literacy of adolescents in the U.S: pp 519-520.

\*Some U.S. states have started investing in adolescent literacy strategies:

\*Florida's *Just Read*: K-12 literacy plans etc.

\*Massachusetts: Carnegie Council on Advancing Adolescent Literacy, 2010.

**AN INCREASE IN ATTENTION TO ADOLESCENT LITERACY:** research summaries/ reports etc p. 521.

\***AdLit.org:** *Reading Rockets/ LDOnline*

\***Alliance for Excellent Education: Centre on Instruction: Institute of Education Sciences:** *Improving Adolescent Literacy: effective classroom & interventions strategies.*

\***National Governor's Association, Centre for Best Practices:** *what content-area teachers should know about adolescent literacy.*

**INSTRUCTION:** list of adolescent literacy reports

**1. Reading Next:** *a vision for action & research in middle & High school literacy:* Biancarosa & Snow, 2004. Identified 15 elements for successful programs. Six of these are:

1. **Direct explicit comprehension instruction:** the kind of things successful readers do like summarising, keeping track of one's own understanding, and much more.

2. **Effective instructional principles embedded in content:** language arts teacher using content-area texts and content-area teachers providing instruction and practice in reading & writing skills specific to their subject area.

3. **Extended time for literacy:** including 2 to 4 hours of literacy instruction & practice that takes place in language arts and content-area classes.

4. **Text-based collaborative learning:** involves students interacting with one another around a variety of texts.

5. **Diverse texts:** texts at a variety of difficulty levels and on a variety of topics.

6. **Intensive writing:** instruction connected to the kind of writing tasks students will have to perform in high school and beyond (Biancarosa & Snow, 2004).

**Strategic tutoring** essential, especially for those with decoding and word-level deficits. They require intense, individualised instruction, both during school time and after school.

**2. Writing next:** *effective strategies to improve writing of adolescents in the middle & high schools.* Graham & Perrin, 2007. These researchers focussed exclusively on writing & summarised the results of large-scale statistical reviews into the effect of specific writing instruction on adolescents' writing proficiency.

1. Writing strategies: planning, revising, editing compositions.
2. Summarising: explicit and systematic teach of how to summarise.
3. Collaborative writing: plan, draft, revise, edit.
4. Specific product goals: specific reachable goals
5. Word processing: computers etc....
6. Sentence combining: teaching students to construct more complex, sophisticated sentences.
7. Prewriting: generate or organise ideas for the compositions.
8. Inquiry activities: analysing immediate concrete data.
9. Process writing approach: interweaves a number of instructional activities in a workshop environment that stresses extended writing opportunities, writing for authentic audiences, personalised instruction, and cycles of writing.
10. Study of models:
11. Writing for content learning: use writing as a tool to learn content area information.

See Composition (chapter 13).

**3. Literacy Instruction in the Content areas:** *getting to the core of middle and High school improvement.* (Heller & Greenleaf, 2000). Comprehension (before, during and after routines, word-level and writing strategies are best taught in the content areas using challenging, content-rich texts.

**4. Academic Literacy instruction for Adolescents:** *A guidance document from the centre for instruction.* (Torgesen, Houston, Rissmen, Decker, Roberts, Vaughn et al, 2007). P. 529

Decoding skills/ content literary areas/ comprehension strategies and text structure and assistive technology.

Text structure: helping students organise the information through the use of graphic organisers and providing direct instructions on text structures and organisational patterns.

Technology:

**5. What content area teachers should know about adolescent literacy:** *National Institute for Literacy, 2007.* Like the others, they discuss vocabulary and comprehension, but also add morphology.

Vocabulary: pre-teaching new vocabulary assists comprehension; direct and explicit teaching



of vocabulary by content-area teachers helps in the learning of key content vocabulary, and gives chances for the student to make connections to related words & background knowledge.

Text Comprehension: content area teachers should include the following comprehension strategies into their content area instruction: generate questions, answer questions, monitor comprehension, summarise text, use text structure, use graphic and semantic organisers.

Writing: content area teachers should teach the steps of the writing process: planning, drafting, revising, editing. (Torgesen, 2007 also supports the importance of writing in the reading process).

Also on p. 528: **decoding** and **reading fluency** as the two basic reading components that are deficit areas for some readers. It describes each component, explained what good readers do, and the challenges facing struggling readers.

**Decoding or word identification**: decoding is “reading”/ being able to match sound to print and sort words from groups of letters. It involves phonemic awareness and phonics. 10% of adolescent readers struggles with decoding. Needs intensive, explicit etc etc interventions.

**Fluency: Practice** (frequent & regular) is essential to promote fluid, accurate text reading. Provide models of reading fluency by reading aloud to students, engage students in repeated oral reading of texts, guided oral reading and partner reading.

**6. Interventions for Adolescent Struggling Readers: a meta analysis with implications for practice** (Scammacca, Roberts, Vaughn, Edmonds, Wexler, Reutebuch et al, 2007).

**7. Double the word: challenges & solutions to acquiring language and academic literacy for adolescents English language learners. A report to the Carnegie Corporation of New York.** (Short & Fitzsimmons, 2007.)

**8. Improving Adolescent Literacy; Effective Classroom & Intervention Practices** (Kamil, Borman, Dole, Kral, Salinger, & Torgesen, 2008). P. 524.

This report made 5 recommendations, the first 3 of which directly addressed content literacy instructions.

1. Provide explicit vocabulary instructions: Use part of every regular classroom lesson to explicit vocabulary instruction, use repeated exposure to new words in multiple oral & written contexts to allow sufficient practice, and give sufficient chances to use the new vocabulary in a variety of contexts through activities such as discussion, writing, and extended reading.

2. Provide direct and explicit comprehension strategy instruction, that are routines and procedures that readers use to help them make sense of the text: including but not restricted to: summarising, framing and answering questions, paraphrasing, and finding the main idea. Teacher to choose a section of the text to be taught and use when teaching a new strategy. Choose the text carefully. Model the strategy, give needed amount of guided practice, and make sure students understand the goal is to **understand** what they are reading.

3. Provide opportunities for extended discussion of text meaning and interpretation: in whole class or small groups, under general teacher guidance.

Teachers must carefully prepare for this: provide follow up questions, provide a task that students can follow when they discuss texts together and develop and practice a discussion protocol.

**p. 527: a combination of word analysis and reading comprehension skills taught by a skilled reading teacher and reinforcement and elaboration of these skills by content area teachers is the best way to improve adolescent literacy (Torgesen, 2004)**

**9. Time to act: an agenda for advancing adolescent Literacy for College and career success.**  
*Carnegie Council on Advancing Literacy, 2010.*

**Assessment: 3 tiered diagram/ diagram of Literacy assessment plan for grades 4-12. See full text below.**

**Content literacy instruction for all students:** Torgesen et al, 2007: most middle & high school students spend most of their time in content area classrooms, and must learn to read expository, informational, content-area texts with greater proficiency, they must have training in how to read & write for specific kinds of content learning in order to make progress in learning those subjects. Supported by Heller & Greenleaf (2007).

This means the strategies used in Infants and Primary schools, but applied to the High school texts: student generated questions/ prior treatment of the text/ collaborative and cooperative learning etc etc etc.... most High school teachers don't have access to this sort of knowledge.

**Literacy Motivation and Engagement:** p. 531.

What content area teachers should know about adolescent literacy: National Institute for Literacy, 2007, *Academic Literacy instruction for Adolescents: A guidance document from the centre for instruction.* (Torgesen, Houston, Rissmen, Decker, Roberts, Vaughn et al, 2007) and Guthrie & Humenick (2004) found the following to be powerful tools:

- \*Focus on students by setting clear goals and expectations for performance.
- \*Guide students to focus on their own improvement.
- \*Provide variety and choice in reading materials and assignments.
- \*Provide opportunities for students to interact through reading.

Building student confidence is also important.

**Assessment:**

Formative and summative. See Assessment section. An initial screening or threshold score on a required reading test and following use of a diagnostic reading instrument administered, scored and interpreted by a specialist.

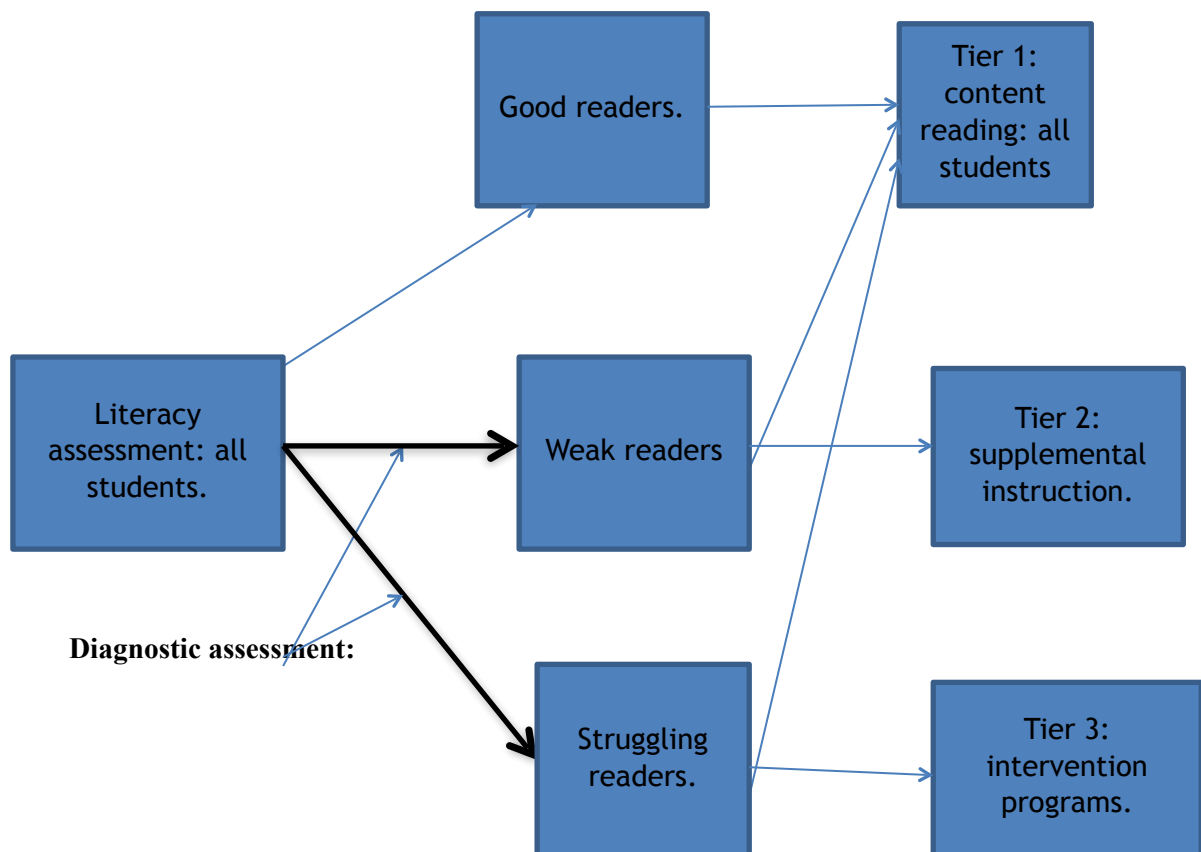
**Professional development:**

Carnegie Council on Advancing Adolescent Literacy (2010): recommended as a bare minimum that all middle and high school teachers should have a working knowledge of:

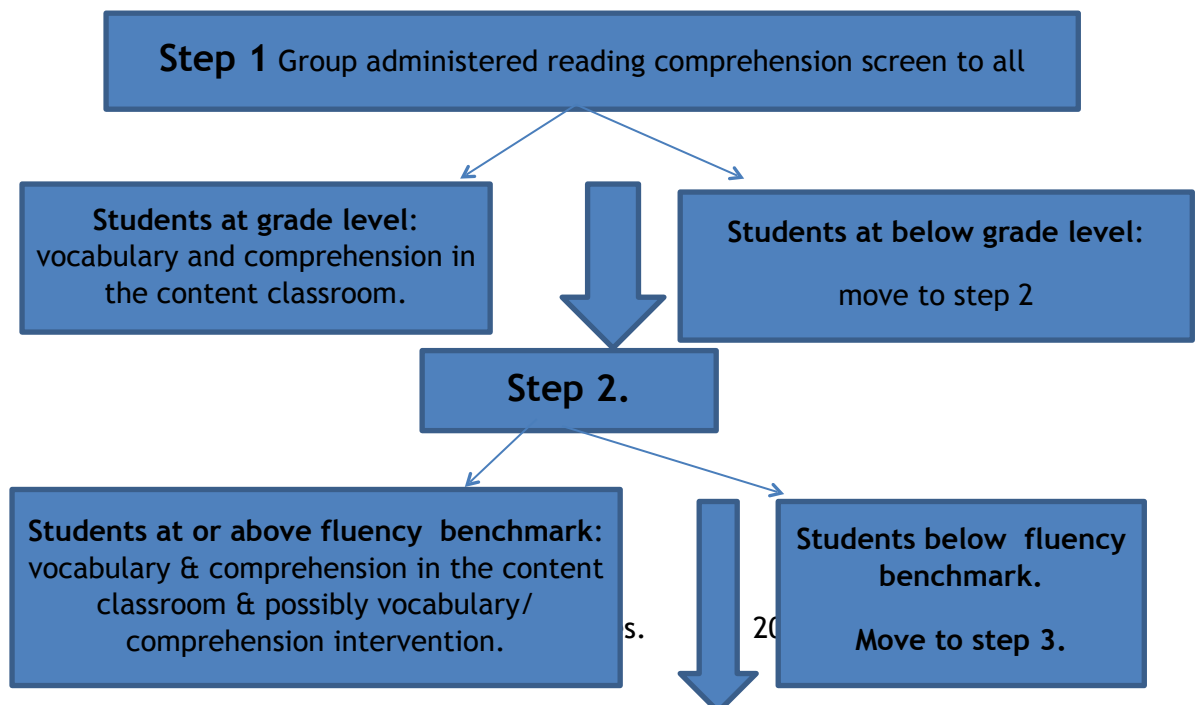
- \*How literacy demands change with age & grade.
- \*How students vary in literacy strength and needs.
- \*How texts in a given content area raise specific literacy challenges.
- \*How to recognise and address literacy difficulties.
- \*How to adapt and develop teaching skills over time.

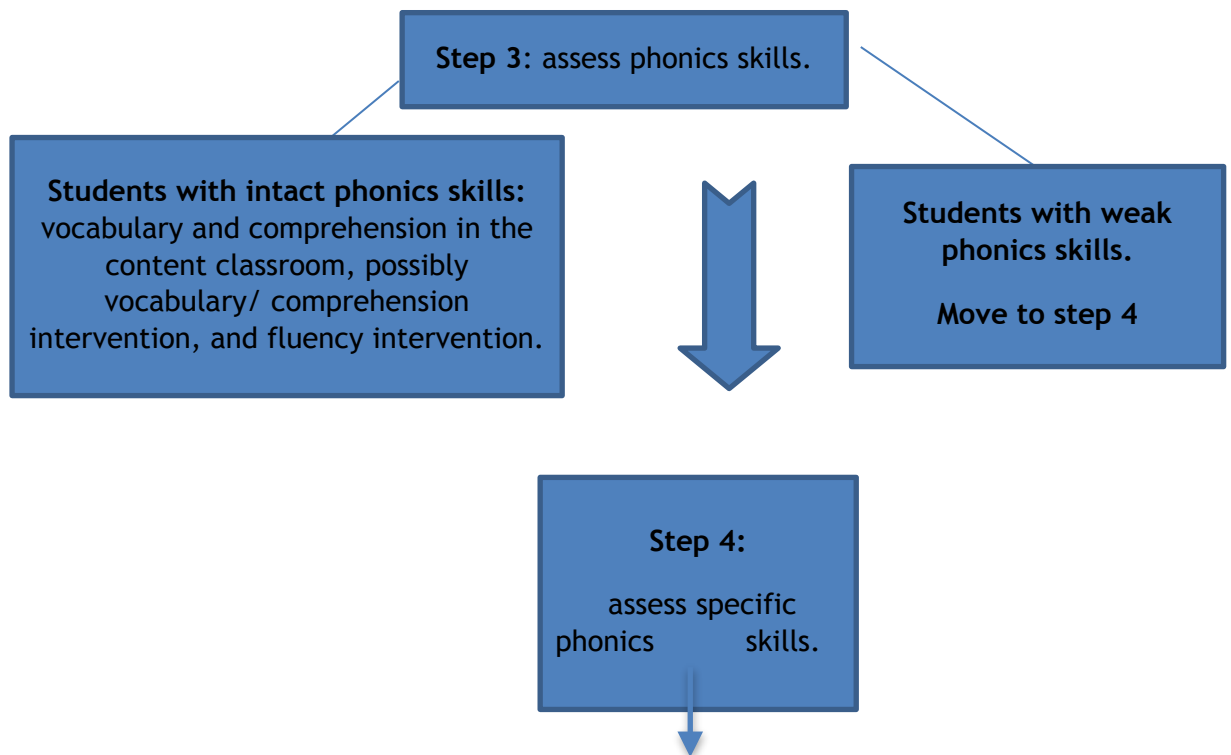
P. 534.....> planning interventions at school, district and state level (U.S.)

**Three tiered framework for assessment:**

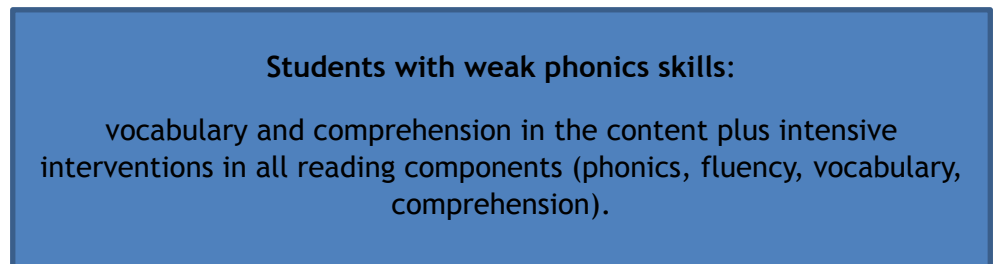


**Literacy assessment plan for grades 4-12:**





538-545: more info.



## **SECONDARY STUDENTS READING PROGRAMMING and STRATEGIES HANDBOOK. (NSW DET).**

This handbook was developed to help secondary students who are experiencing difficulties in processing text.

**Increasing Fluency:** some students may read accurately but so slowly that they are unable to process the meaning of what they have read. Their fluency rate must be increased. To do this they need:

- \*texts at an easy level.
- \*many chances to practice.
- \*close monitoring of their problems/ progress.

The following interventions have been found to be used successfully with older readers with low fluency levels. **See descriptions of these activities in the Reading document.**

**1. Repeated Reading:** using text in which the student gets more than 95% accuracy & short sections (100-200 words). A target fluency rate is set. The student first practices reading the passage to themselves and then reads the passage to peer tutor who times and graphs the result, including errors. They continue reading the passage until the target fluency level is reached. Reading to a tape can also help.

**2. Use Pause, Praise, Prompt strategy** using text at an easy level. Also see the Pause, Praise, Prompt **tutoring procedure.**

**3. Paired Reading:** pair students of equal abilities and easy text (95-100% accuracy). 15 to 20 minute sessions, where the first student reads for half the time and then the 2nd student..... They help each other. If they strike a word that neither know, they make a note to ask the teacher.

**4. Guided Reading:** usually in small groups of students at the same instructional level.  
Include:

- \*setting a purpose for reading the text. (Text t 95-100% accuracy rate).
- \*orient the student to the text.
- \*teacher interaction to prompt use of **contextual, visual, phonological and semantic cues.** The 4 complementary sources of information must be integrated for successful reading to occur.
- \*some specific aspects of the reading process may need be taught for the specific text eg irregular sight words/ a digraph etc. Explicit associations of the look, sound and feel of various phonemes.
- \*focus on **gaining meaning** from the text.
- \*consistent monitoring.

**SEMANTIC PROCESSING:** involves:

- \*vocabulary (in the text and in the instructions).
- \*grammatical conventions.
- \*sight words.
- \*morphemes and word building/ word families.
- \*activate & build on background knowledge.
- \*Mnemonics.

**CONTEXTUAL/ GRAMMATICAL PROCESSING:**

- \*link student's background knowledge to the text.
- \*understand the author's intent, message, theme, point of view.

\*see the links between the text structure and its purpose, to grasp the main idea and retain key details and information..... These are **meta cognitive processes**.

\*teach literal, interpreted and inferred information gathering strategies.

### **VISUAL (GRAPHOPHONOLOGICAL) PROCESSING:**

\*automatic recognition of sight words/ sequences of letters and letter clusters.

\*use games, cards, Bingo, Concentration etc to make learning the sight and irregular words fun.

\*match-to sample for very poor readers.

\*peer tutoring/ computer programs/ listening posts/ taped stories.

\*teach spelling of the irregular sight words and vocabulary lists for the unit's work.

\*monitor. Record progress.

### **PHONOLOGICAL PROCESSING:** letter-sound links, blending to form words.

\*spelling of phonetically regular words and word families. Use spelling programs for older students.

\*computer and tutoring programs.

\*model use of letter sound links when dealing with an unknown word.

\*link morphemes (units of meaning) with their sounds... especially the use of prefixes & suffixes.

\*Monitor. Record.

### **STRATEGIES:**

#### **Reading:**

#### **1. Extracting information from different forms of presentation eg tables, captions, diagrams, headings:**

\*visual reading guide\*.

\*sketch to sketch.

\*concept mug sheet.

\*co-operative flow chart.

\*barrier crosswords.

\*skimming\*

\*Main idea activities: mixed up information, sort into correct order:

\*read text, make up heading

\*read heading, make up text.

\*Construct table, starting from scratch.

\*Reference between texts: diagram/ table.

\*Identification/ selection of heading to find information.

\***Tables:** Discuss examples in texts used by the class.

Explicitly talk about the way in which the information is presented.

Provide a verbal model of how to talk about the information.

Guide students to talk about the information, providing corrective feedback.

Provide opportunities for students to discuss the information with one another.

\*construct tables & graphs related to own experiences, then write heading for the title.

\*Match graphs to written information.

\*Role play captions.

\*Thinking Ahead Procedure\*

\*Matching heading to Information. Use text with headings & subheadings deleted. Provide headings and subheadings separately & ask students to match the heading to the text.

\*Writing Headings. Use text with headings & subheadings deleted. Ask students to write headings and subheadings which fit with information in the text.

\*Two Point Strategy (Ostoja, 1996)\*

\*Graphic Outlines\*

\*Structured overviews\*

\*Restructure text\*

\*Cloze

## **2. Sequencing:**

### **a). Narratives:**

- \*Retelling.
- \*Story Maps.
- \*Flowcharts.
- \*Timelines.
- \*Restructuring texts\*
- \*Graphic outlines\*

### **b). Alphabetical:**

- \*Working with dictionaries.
- \*Personal dictionaries.
- \*Reconstruction of text which is organised using alphabetical order.
- \*Graphic outlines which have alphabetical organisation\*

### **c).Text Order:**

- \*Restructuring text\*
- \*Graphic Outlines\*
- \*Story Mapping\*
- \*Flowcharts.
- \*Sort mixed up information into correct order.
- \*Teach specific features of different text types. Provide written examples for student reference.
- \*Retelling.

## **3. Interpreting Information:**

- \*Skim, read & summarise\*
- \*Let's Talk Words (context clues).
- \*Frames.
- \*3 level guides.
- \*Feature Analysis.
- \*Jigsaw Reading.
- \*Story Mapping.
- \*G.R.A.S.P. Guided Reading Summary Procedures.
- \*Mind mapping.
- \*Burgess Summary.
- \*Sentence Whispers.
- \*Barrier Games.
- \*Following Maps.
- \*Constructing Board Games.

## **4. Inferring from given facts or situation:**

- \*3 level guides\*
- \*etc

## **5. Understanding of poetic/ figurative language, including metaphor:**

- \*Role play.
- \*Floor storming.
- \*Visualising & Verbalising.
- \*Sketch & Label the Poem eg *Jungle of Pain*. Does your sketch have a jungle in it?
- \*Match Image to Metaphor: Metaphor Concentration.
- \*Figurative Language Survey.
- \*Onomatopoeic activities.
- \*Personification activities.
- \*Discuss the use of figurative language in factual texts where figurative language is used to position the reader.
- \*Discuss the use of emotive language in picture books where visual image and media use symbolism/ metaphor to create or portray messages.

- \*Explore symbolism in words & pictures (eg in Art).
- \*Discuss persuasive text used in History & Science & media texts used in HSIE and English where figurative language is used to illustrate or persuade.

## **6. Understanding comparisons:**

### **a). Similar:**

- \*contextual redefinition\*
- \*concept definition\*

### **b). Different:**

- \*concept definition.

## **7. Recognising/ making order, classifying:**

- \*List Group Strategy (PSLAC, Ostoja).
- \*Sequencing.
- \*Card Sort (Ostojia).
- \*Concept/ Character Clines.
- \*Graphic Outlines.
- \*Character/ Concept Socio gram.
- \*Structured Overview.
- \*Brainstorm: what do we know?  
Clarify under headings.  
Explain why “chunks” are classified together or belong under that heading.
- \*Discuss similarities.
- \*Create matrices.
- \*Mind maps.
- \*Concept maps.
- \*Semantic Webs\*
- \*Use colour & concrete stimuli.

## **8. Understanding of verbal text precis, intent, theme.**

To be completed.

## **9. Identifying text type:**

- \*Concept interview.
- \*Graphic Outline\*
- \*Writing Scaffolds.
- \*Directed Reading Thinking Activity\*

## **10. Identifying Narrative voice, narrative perspective, etc**

## **11. Identifying and using structural features of texts.**

- \* Restructure text:
- \*Deconstructing & reconstructing at text, paragraph & sentence levels.
- \*Sort 2 different deconstructed texts.
- \*Cloze eg paragraph close.
- \*Structured overviews.
- \*Matching subheadings with paragraphs.
- \*Matching themes/ rhemes.
- \*Supplying proformas for particular text types ie scaffolds at approximate levels.
- \*Work through a text with students, pointing out the structural features.
- \*Guide the students to identify structural features by asking questions which guide them through the structural features.
- \*Guide the students to use the structural features of texts by giving them a partial text and asking them to complete the missing sections.



### **Arguing:**

- \*Advanced organiser.
- \*Writing scaffolds.
- \*Transformation.
- \*Debate.
- \*Free writing.
- \*Joint construction of text.
- \*Conjunction as Springboards.
- \*Unfinished sentences.
- \*Scaffold.
- \*Compare & contrast.

\*ask students to change part of a given literary text to suit a different purpose eg a happy or sad ending/ one your grandmother would like/ or one your brother would like.

\*ask students to change part of a given persuasive text so that the message is changed.

### **12. Identifying and using Grammatical Features of texts.**

### **13. Literal comprehension/extracting information from body of text.**

- \*Facts-Questions-Comments.
- \*True & False.
- \*3 level guide.
- \*Grasp.
- \*Guided Note taking Proformas.
- \*Matrix.
- \*Vocabulary in Context.
- \*Turn About Reading.
- \*Readers Theatre.
- \*Shared Reading.
- \*Modelled Read-a-long.
- \*Paired Reading

#### **a). From one place:**

- \***key words:** Underlining. Topic sentence. Highlighting.
- \*Headings.
- \*Narrative.
- \*"wh" questions.
- \*Retelling.
- \*Display in pictorial form: graphic organisers & diagrams.
- \*Reading to find specific information.

#### **b). From more than one place:**

- \*If in the same text:
  - \*semantic webs to build up information.
  - \*characteristics chart.
- \*Research skills: see Primary Information Skills document
  - \*SCAN in libraries.
- \*Summarisation \*eg write one sentence only to summarise a paragraph.

### **WRITING:**

#### **1. Narrating:**

#### **2. Describing:**

- \*Agony column.
- \*Brainstorming.
- \*Mind map.
- \*Mnemonics.
- \*Reciprocal teaching\*

- \*Writing scaffold.
- \*Structured overview.
- \*Visualising & verbalising.
- \*Diagramming.
- \*Frames.
- \*Advanced organiser\*
- \*Finding the paragraph that doesn't belong.
- \*Word meaning predictions eg predict, check dictation, revisit context.
- \*Jumbled sentences.
- \*Retelling\*
- \*Text reconstructions.

### 3. Instructing:

#### Language:

##### 1. Spelling:

\*have a list of spelling words taken from week's units of work. Assist students to learn them by:

\*drawing attention to the morphemic elements ie root words which are related to key concepts. This aids learning of the **focus word**, but also helps them to gain meaning and spell other words within the **morphemic family**.

\*word building activities where students add different endings to base words.

\*Chunk words in different colours (focus on morphographs, common letter combinations or sequences).

\*promote the use of personal dictionaries so that students have a way of accessing the correct spelling of key words at all times.

\*provide many chances to focus on correct spelling of words through activities like:

\*look, cover, write, check.

\*jumbled words and variations.

\*hangman.

\*looking for distinctive patterns in words.

\*acrostics.

\*mnemonics.

\*crosswords.

\*findawords.

\*trace words.

\*computer games.

\*Teach rules: /i/ before /c/ except after /c/. Have these rules written in their personal spellers.

\*Teach use of spell check when writing on computers.

\*Ensure their phonemic knowledge is sufficient for them to spell phonetically regular words: that they:

\*can say sounds for letters.

\*can say names of letters.

\*can differentiate between when to use letter sounds & letter names.

\*can write the letters for sounds.

- \*can separate sounds in words.
- \*can say the sounds in words in correct order.
- \*can blend sounds.
- \*provide prompts and fade as student becomes more proficient.

## 2. Punctuation:

## 3. Grammatical Features:

- \*Create a word bank related to the topic, then classify into groups. Create charts.
- \*Highlight specific word groups in text.
- \*Substitute other words for specific word groups in a selected text (oral or written).
- \*Highlight words used inappropriately.
- \*Teach proof reading for inaccuracies.
- \*Cloze passages which focus on specific grammatical features.
  - Provide prompts:
    - \*several words from which students select the most appropriate word.
    - \*several words from which students delete inappropriate words.
    - \*provide initial letter.
    - \*cut up laminate sets of sentences & ask students to reconstruct as sentences.
    - \*match beginnings and ending of sentences.

## 4. Structural features:

## EXPLANATION OF SPECIFIC STRATEGIES:

**Contextual redefinitions:** the aim is to assist students to use text effectively to aid in building vocabulary knowledge.

Teacher selects words that are unfamiliar to the student & presents these words in isolation. Class reach a consensus on what the word could mean. Teacher shows a sentence which indicates the meaning of the word. Students guess the meaning & justify their reasons. Then use a dictionary glossary to check.

**Categorisation:** to help students in determining the relationships between technical terms. The teacher lists group of words. Students select the odd one out, giving reasons. They can also provide a list in which the odd one out would be included and can also rank the words according to a semantic feature eg ordering the following words in terms of temperature: hottest to coldest: tepid, frozen, warm, boiling, cool, chilled, hot

## Feature Analysis:

**Predicting & confirming activity:** this helps students build background knowledge when students know little about a topic. (Having background knowledge is an **essential element** for successful comprehension). It helps the students relate to the vocabulary & concepts of a text before they are asked to use the information, **using predictions as purpose for reading**.

a). The teacher poses a general question relating to the text eg *What is photosynthesis?* The teacher presents a list of related words: *plant, sun, green, water, light, food*. She could also discuss relevant morphology eg *photo* is a Latin root for *light*.

b). Students and teacher write predictions for what photosynthesis might mean: it occurs in plants/ plants need water to make food etc

c). Teacher gives new information from pictures/ videos/ documentaries/ books/ films etc

d). Students revise or modify their statements, then read the text **using predictions as purpose for reading**.

e). Students revise their initial predictions based on their new knowledge.

## Modified Close Passages:

**Visual Reading Guide:** this is to help students deal with a text that is covering a topic about which they know little. The strategy is to have the students focus on the visual aids in the text: diagrams/ photos/ graphs etc, so they can **predict the content of the text**.

Students locate the various visual images, discuss their purposes and why that illustration is in that specific part of the text. They then read the text, using prediction as a purposeful reading.

**KWL:**

**Sentence Whispers:** this is a written version of Chinese Whispers. A sentence is written on a piece of paper and the top is folded over it. One by one the students lift the paper, read the sentence prior and add their own sentence underneath. At the end the teacher reads the whole paper and class discusses.

**Pre-Reading Plan:** this is a useful strategy when students have some knowledge of the topic. The class brainstorms words and ideas related to the topic and reflect on their reasons for making the associations. (Words can also be categorised). They elaborate and clarify their original responses. Statements can then be written and compared. If sufficient prior knowledge exists, the students can then read the text.

**Semantic Maps:** useful when students know a lot about a topic.

**Graphic Organisers:** this strategy is useful when students know lot about a topic. Outlines may be used to focus on the following aspect of literacy: listing, time ordering, comparison/ contrast, cause & effect. The purpose is to help students see the relationship among concepts.

Teacher decides on the organisational structure of the text to be read and distributes appropriate outlines. Students fill in the outlines as they read.

**Possible Sentences:** Students listen, write, read and share their evaluations, giving multiple exposures to a word. The aim is for: students to be familiarised with technical vocabulary and to use this vocabulary in meaningful contexts.

- a). Visually display key vocabulary from reading passage. (The vocabulary must be adequately defined in the passage context.
- b). Students use these key words to predict sentences that may appear in the passage.
- c). They read the passage to see if their predictions were correct.
- d). They evaluate their sentences and generate new ones.

**Opinion-Proof:** this is a reading-writing strategy aiming to help students support an argument with evidence from written text.

- a). Students divide their paper into 2 columns.
- b). In the left hand column (titled *Opinions*), they write their opinions about the topic.
- c). Students read the text and note the evidence on the right column (titled *Evidence*). Information in this column, will help their argument.
- d). Students write a summary supporting their opinion statements.

**Reciprocal Teaching** (see description in Reading document): this uses predicting, questioning, summarising & clarifying. It is a small group, not whole class activity. It requires a training period, where teacher models all the roles.

## **RECIPROCAL READING:**

Student or teacher can “lead” the group. The aim is to concentrate on finding the main idea/ purpose of the text. Texts are not to be too hard. Group members take turns reading from the text and it is then discussed, with leader asking questions. Members respond with their own ideas. Any member can speak at any time. The leader then summarises the main ideas etc and the group comments on this. The reader then proposes the next section be read and they all make predictions about what may be in this text. Leader/ reader roles to be changed each day so everyone gets a turn in the different roles.

### MODIFIED RECIPROCAL READING TECHNIQUE:

- a). The teacher introduces the passage with a brief discussion (activate prior knowledge). Students predict what might be in the text based on title.
- b). Students read 1st paragraph silently.
- c). Teacher summarises the passage, questions students, clarifies understandings and predicts what the main ideas etc of the next paragraph might be.
- d) All students silently read the 2nd paragraph.
- e). A student acts as the teacher & follows the 4 steps in point 4.
- f). Continue treating each new paragraph in this way.

### SEVEN STRIPS:

This is a reading-writing strategy which focuses on sequencing: extracting information, note-taking, writing expository text.

- a). Students to read the article (as many times as needed for them to decide the **7 most important** facts in the piece).
- b). Cover the article.
- c). In student pairs, list the 7 most important facts on 7 strips of paper. Move the strips around: sequence, group similar facts, to support arguments etc.... the idea here is to develop the idea of **bundling** information (which then becomes the basis for **later paragraphs**).
- d) Is there enough information/ too much???
- e) Move paragraphs around into the order to write the information you wish to express.
- f) Discuss with others. (Organisation & information).
- g) Students individually write an expository piece, using the information they have organised and the order they have decided.
- h) They are to use their own language to “flesh out” the writing. ... and check their information with the original article.

**DATA CHARTS:** this is a Guided Reading & Summary Procedure. Its aim is to model & demonstrate effective summarising through recording information.

The data chart consists of categories that are relevant to the information in the text being studied. Eg **Animals** could have headings like: size, habitat, what they eat, what they look like.

- a). Students read the text in pairs, remembering as much as they can.
- b). Turn the text face down.
- c). Refer to the data sheet and write what they can remember & in the relevant category.
- d). The teacher then discuss how to best **organise the information** in each category to form a **minimum number of sentences**.
- e). Each pair completes sentences for each category & presents to the class.

### RETELLING:

- a). Students are given the **title** of an article or passage and asked to **predict** what it may be about. These predictions are then discussed.
- b). Students read the passage together and discuss the content, words used/ ideas expressed.
- c). They read the passages themselves & re-write the passage in their own words.
- d). In groups, they then discuss what they have written, and modify and clarify their writing until it is their best effort. At this point, the following questions could be asked:
  - Are all the relevant details included?      What has to be added?
  - Has additional information that was not included in your original text been included?
  - Does the information in your writing retell logically?

### DICTAGLOSS:

- a). Teacher reads the text aloud at a normal rate, while students write down the key words/ phrases in a list.
- b). Teacher rereads the passage and students check the key words they have written and add information.

- c). In groups , they reconstruct the passage was they heard it.
- d). The teacher rereads the passage & students check their reconstruction of the passage.

**REFLECTIVE WRITING:** to get students to **think actively** about content material.

- a). Give the students a focus question that they can write about in relation to an activity or piece of information.
- b). This focus question can be given as homework, or in the last few minutes of lesson. They can become a Journal Entry for each lesson. A Learning Log can be kept on the content of each lesson.

**DEBATING GAME:** to develop listening skills.

- a). Form a group and select 2 teams. Chose a controversial topic and ask each member to write something to support their side.
- b). Select one team to begin the discussion & listen to the first team member's argument.
- c). Before the opposing team can reply, one of its' team members must be able to repeat the main points of the previous speaker's message. If they can't, they lose their turn & another speaker from the opposing team speaks.
- d). After an equal number of turns, the team with the most number of speakers is the winning side.

**VOCABULARY IN CONTEXT:** to help readers to understand subject specific vocabulary prior to content reading.

- a). Select text at an appropriate level & list the content/specialised vocabulary words (about 5 words).
- b). Students are given directions to find these words in the text eg  
15:3:4: page 15, paragraph 4; line 3.
- c). In pairs, the students find the word, read it in context & discuss it's possible meanings and justify their choice.
- d). After activity completion, other pairs may share their answers so a consensus on meanings is reached.

**MNEMONICS OR KEYWORDS:** for use with difficult to remember words.

The student learns a concrete keyword that sound like the target word. Eg *angel* for *angler*. They then develop a pictorial association eg *an angel fishing* to remember the word.

**THINKING ALOUD PROCEDURE:**

Take a section or chapter of a text and format on a guide sheet using the structure of the text ie use the heading and subheadings: allow space under each heading & subheading for students to write several lines of notes under each.

- a). Ask students to predict what information they might find in this text. They can do this by themselves, with a partner or in a small group.
- b). Students read the text, comparing their predictions against the information in the text.
- c). They revise what they have written on their guide sheets and can change so it accurately reflects the text. They can do this by themselves, in pairs or in small group.

**TWO POINT STRATEGY:** (Ostoja, 1996).

- a). Individually, students write down all they know about the topic to be discussed. They then underline what they consider to be the 2 most important points.
- b). In pairs or small groups, they come to a consensus on the two most important points for their group.
- c). They feed back their 2 points to the class and teacher records on board/ OHP sheet. Class discusses.

This strategy can then led to a **Structured Overview**:

**STRUCTURED OVERVIEW:** the points recorded in the two point strategy can be recorded as a visual arrangement of the words/ comments related to the topic. Lines are drawn between the words

or concepts that may be related. Students can then see “what goes with what” or how things are organised.

**ADVANCE ORGANISER: TELLS-Fact of Fiction:**

**T:** Title: student to guess the general context from the title.

**E:** Examine the material for clues.

**L:** Look for important words.

**L:** Look for hard words.

**S:** Setting: determine the setting.

Finally: students to determine if the article was fact or fiction.

**BEFORE AND AFTER CHARTS:** see Reading document.

**THINK SHEET:** to direct students to set a **purpose** for their reading when they are trying to gain information from a text. Direct them to use **chapter titles, headings & subheadings** to determine what information may be in the passage.

- a). Use a specific part or section of the book.
- b). List all headings and subheadings. If there are no subheadings, list the key phrases from the first sentence of each paragraph (This is usually the topic sentence).
- c). Students work with partners to decide what information might be in each section. Record predictions in pencil.
- d). Students read the text to decide the accuracy of their predictions. Revise if necessary.
- e). Meet with original partner(s) to revise their sheets and record any changes or additional information.

**GRAPHIC OUTLINES:** this is a pre-reading strategy where a graphic outline (a visual representation) of the structure and content of a chapter of a textbook or similar instructional material is created.

**Benefits:**

- a). Graphically organising information is often a first choice/ preferred method for those with dyslexia.
- b). It organises the information to be read, therefore adding to comprehension.
- c). It aids revision and gives structure in essay writing.
- d). This is a strategy even poor readers enjoy using. It helps them see the purpose of the text.

**Method:**

- a). On an OHT or handout, display a completed graphic outline of a chapter of a textbook or written material to be studied next.
- b). Discuss how to differentiate between headings & subheadings (eg bold type/ print size).
- c). Prior to studying the next chapter of the textbook, show an incomplete outline. Complete the outline with the whole class.
- d). Then have the class split in pairs, small groups or individuals to finish the outline on their sheets.
- e). Then they are given another sheet with empty boxes for **all** the structure of the outline. Students to fill in the missing headings, subheadings & detail by themselves.
- f). Students complete a graphic outline for the next chapter in the text, by themselves.

**COLLABORATIVE STRATEGIC READING:**

This is an **extremely effective** comprehension strategy. It is described in more detail in the Reading document. It has been adapted primarily from Palensar & Brown's 1984 article called **Reciprocal Teaching Model**, which teaches students to use the 4 strategies of **prediction, clarification, summarisation and question generation**.

It combines comprehension strategies & cooperative learning. Mixed level students apply comprehension strategies while reading content area text in small groups.

- a). The teacher presents the strategies (preview, click & clunk, get the gist & wrap up) to the whole class using think aloud, modelling and role playing. As student confidence develops in these

strategies, the class is divided into groups of 5 to 6 students and they take turns leading discussions about the text contents.

b). These peer groups review the material to be presented that day, asking each other what they already know about the topic and what they hope to learn.

c). They read a short section, then “click & clunk” making sure everyone in the group understands the key vocabulary & text.

d). Then students “get the gist”, figuring out the main idea of the paragraph or section of what they have just read.

e). Finally, when they have finished reading the day’s passage, they “wrap up”, restating the most important information learned that day and formulating questions they think the teacher might ask on a text.



HUGH GRIGG: *SuperMemo* has an article titled 'Effective learning: Twenty rules of formulating knowledge'. It's over a decade old now, but contains brilliant advice on modern learning methods. If a decade seems a long time ago for cutting edge advice, remember that the methods used in most classrooms and textbooks today are far older still. This information isn't new, but it's still not widely recognised.

I would strongly recommend that students have a read of the article, whatever topic they're studying. Learning how to learn is often ignored or not taken seriously. Some schools and universities may put on the occasional 'study skills' session, but these are usually banal and unhelpful. Good learning strategies, however, make an immeasurable difference to success in study. SuperMemo is a source of a lot of good advice in this area. I'm not totally sure about the neuro scientific language used to explain the information, but the principles given are certainly worth remembering.

## 20 tips for better SRS learning

This is just a short write-up of the rules given in the article, as summaries are always good.

- *Always get an overview first.* This is an excuse to have a relaxing read of something without analysing it and breaking it apart for specific study; that comes later.
- *Learn before memorising.* This is pretty much the same rule as above. Get an understanding, then begin memorising the details.
- *Begin as basically as possible.* It's easy to assume some information is obvious and neglect it. But incorporating the easy stuff into your study costs little and dilutes the harder material, keeping you motivated.
- *Break it down as far as you can.* Once you've understood the overview, you should completely tear it apart for focused study. This lets you identify the problem areas in the smallest possible detail so that you can concentrate on them without wasting time.
- *Cloze deletion*. An quick, easy and effective way to force yourself to *actively* remember the information.
- *Use images.* I'd add every kind of media you can to this. Audio, video and whatever else you can get hold of will add depth and interest to your learning. It's all about be efficient and effective, and these media help you do it.
- *Mnemonics*. Thinking up mnemonics is a very useful skill to develop. They don't have to be poems or rhymes - any little mental prompt will do. Keep your mnemonics personal and weird, as these work the best.
- *Graphic deletion.* Just like cloze deletion with text - make yourself remember missing parts of images.
- *Avoid sets or lists.* You should avoid trying to learn by rote large chunks of organised information. This is very inefficient and frustrating to attempt. If possible, it's far better to break it down and come at it from several angles.
- *Enumerations.* If you really have to learn a set (the example given is "Which countries are in the European Union?"), enumerations are the best (least worst) way to do it. It involves ordering the information in a strict sequence so that you can attack it with better methods such as cloze deletion, and also so that it prompts you as you recite it.
- *Combat interference.* If you learn new information that's similar to something you already know, the two things can clash in your memory, leading you to forget both of them. The problem won't rectify itself, so the best way to tackle this is to be consciously aware of it, and treat distinguishing the confusing items as something to be learned in itself.
- *Minimum wording.* This is similar to tip #4. Always go for the smallest chunks possible. An 'item' for review shouldn't be more than one sentence, and ideally should only be a few words or short phrase.
- *Refer to other memories.* One way to avoid interference (#11, above) is to directly incorporate it into your studies. Use similar items to reference and contrast each other. This is fast and helps make the differences obvious.

- *Personalise.* As mentioned above, make your learning as personal as possible, even to the extent that you'd be embarrassed to explain your materials to someone else. You're teaching yourself, so make use of as many idiosyncratic shortcuts as possible.
- *Make it extreme.* This is very similar to #14. Use vivid, shocking images and words as mnemonics. No-one else has to know what they are, and they'll make recall easier.
- *Use context and categorising.* This is one tip that is actually very well known. Colour-code and otherwise organise your learning materials to make them quicker to produce and use. This also helps you associate related content, which often aids memory.
- *Attack from all sides.* Don't settle on one way of learning and reviewing an item - create several, especially for problem information. This is very effective for long-term recall, and also ensures you understand material as well as remember it.
- *Provide sources.* Make notes of where you got information. This nearly always comes in handy later, and is generally a good habit for students.
- *Date.* As in #18 - note the date you find things. Information often changes, and it's also a boost to motivation if you notice that you remember something from years ago.
- *Prioritise.* This can be very tricky, but you can increase efficiency by prioritising material to be learnt. Anki and other SRS software lets you do this and will handle the scheduling for you.